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**ROLE OF
WHOLESALERS AND
DISTRIBUTION GROUPS
IN
INTERNATIONAL TRADE**

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IN-DEPTH ANALYSIS

ROLE OF WHOLESALERS AND DISTRIBUTION GROUPS IN INTERNATIONAL TRADE

ABSTRACT

In this briefing, we assess the role of intermediaries and wholesalers in international trade based on the existing theory and empirical evidence. In all countries examined, a relevant share of international trade (on average more than 10%) occurs through intermediaries. Especially small and less efficient firms can export thanks to the presence of intermediaries operating on a larger scale and exploiting economies of scale. Intermediaries therefore can increase the amount of exports and the extent of economic integration of a country, especially when there are relevant obstacles to access a foreign market. Many firms in emerging markets have access to foreign markets thanks to the presence of intermediaries. Because of the role played in an increasingly complex global market, wholesalers tend to have a large size and a significant market power. Therefore competition needs to be maintained in this sector, in order for countries to truly benefit from the presence of wholesalers and intermediaries.

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Authors: Lucia TAJOLI, Associate Senior Researcher, ISPI, and Professor, Politecnico di Milano, Italy

Chiara TOMASI, Assistant Professor, Università degli Studi di Trento, Italy

Official Responsible: Roberto BENDINI and Elfriede BIERBRAUER

Editorial Assistant: Jakub PRZETACZNIK

Feedback of all kind is welcome. Please write to: roberto.bendini@europarl.europa.eu.

To obtain copies, please send a request to: poldep-expo@europarl.europa.eu

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List of abbreviations

BEEPS	Business Environment and Enterprise Performance Survey
EBRD	European Bank of Reconstruction and Development
FDI	Foreign Direct Investments
ICT	Information and Communication Technology
OECD	Organization for Economic Co-operation and Development
TNC	Transnational Corporation
WTO	World Trade Organization

Executive summary

- On average, intermediaries accounted for about 10% to 20% of a country's export in the mid-2000s.
- On average the percentage of firms that reach a foreign market using intermediaries for exporting is 14%.
- The recent analysis on the role of intermediaries in international trade was made possible thanks to new disaggregated data sources, which enabled a very detailed breakdown of information including differences between firms, even within the same sector. But data limitations are still severe and the analysis is still limited to some countries and not entirely up-to-date.
- The main reason for using intermediaries is that a wholesaler can spread the fixed cost required to enter a foreign market over a large number of products.
- Empirical evidence shows that firms exporting directly perform better than indirect exporters, supporting the idea that intermediaries help less efficient firms to access foreign markets
- The quality and types of product affects the choice of the exporting channel. Intermediaries are used more frequently by firms producing lower quality goods and they are used less frequently for exports of goods with high relational-specificity.
- Intermediaries play a larger role in markets with high fixed export costs and with difficult access.
- A high share of Chinese exporters uses intermediaries, but this share has declined in the recent past, probably because of the liberalization process in China, which facilitated the access to foreign markets.
- Evidence for China suggests that trade through wholesalers has pros and cons, as these intermediaries help less efficient firms to reach foreign markets, but they limit the benefits of getting to know directly the foreign customers.
- The overall existing evidence suggests that intermediaries can allow even relatively smaller and less productive firms to overcome existing barriers to foreign markets and to export, in this way increasing trade flows among countries.
- Concerns about the role of intermediaries are related to the creation of bottlenecks in trade flows caused by concentrations.
- Entrance of foreign large retail chains in a market can produce very different effects in terms of competition, reorganization of the local supply chain and amount of imports. Evidence exists of different impacts in different countries and no clear general trend has emerged yet considering the cases studied so far.
- Overall, both the existing theory and evidence suggest that the impact of intermediaries and wholesalers on international trade is positive, but in order to guarantee this result, competition and entrance in this sector must stay high.

1 Introductory remarks

As the complexity on the international market grew, with an increase in the number of potential markets to serve, higher consumer expectations and increased competition in a more open global system, market access has not become easy for many firms, especially the medium and small ones. Data show that the number of exporting firms in every country is small relative to the overall number of firms, in part because the barriers that must be overcome to reach foreign markets. (Barba Navaretti et al., 2011). In this context, access to foreign markets can be facilitated by the presence of intermediaries (wholesalers), which can be pure traders, or distributors that sell goods to other firms, either domestically or in foreign markets. Opening to international markets can be increased also through retailers that sell goods and commodities directly to foreign consumers.

It is because of the opportunities provided by this intermediation role, from the mid 1990s onwards, that the retail industries of some advanced countries began a period of internationalization, developing a presence in foreign markets essentially as exporters of retail capital and expertise. In the same period, retailers in the OECD countries, where the distribution systems remained essentially 'traditional', experienced a growing internationalization as importers. This process of internationalization was made possible by the diffusion of Information and Communication Technologies that allowed the distribution industry to substantially improve coordination and to adopt new management techniques based on the so-called "lean retailing".

A second phase of transformation began in the late 1990s, with a rapid acceleration of retail Foreign Direct Investments (FDI), largely by European and US retailers and primarily into the emerging markets of East Asia, Central/Eastern Europe and Latin America. This led to the emergence of a group of retail transnational corporations (TNCs) – firms which simultaneously and rapidly expanded the scope and scale of their store networks in developed and emerging markets whilst establishing extensive and closely managed regional and global sourcing networks. Retailers therefore emerged in a number of sectors as the lead firms in the "buyer-driven" supply chains (Wrigley and Lowe, 2010).

The recent analysis on the role of intermediaries in international trade was made possible thanks to the booming expansion in disaggregated data sources in the last two decades. This has enabled much greater differentiation between firms, even within the same sector. In this scenario, the international trade literature was one of the first to reap the benefits associated with the increased data availability so that new theoretical models were developed and a whole new set of empirical material produced on differences between exporters and non-exporters, and the different modes of entry in foreign markets.

The emergence of such firm level heterogeneities, while important per se, also proved to have relevance for aggregate findings and for policy design (see, among the others, Melitz, 2003, and Bernard et al., 2007). The external competitiveness of a country is of course determined by the aggregate ability of individual firms to operate successfully in international markets.

This emerging research in international trade has identified the existence of several categories of firms engaged in different ways in exporting activities. Such categories comprise manufacturing firms that produce the goods and also directly manage the exchange with the downstream customers abroad, producers that indirectly reach the destination market through intermediaries and the intermediaries themselves¹.

This is a very recent stream of literature and there are still only few theoretical and empirical papers on the subject. From a theoretical perspective the first works, in particular Akerman (2010) and Ahn et al.

¹ As emphasized by Bernard et al. (2010) there exist also firms that engage in a mix of those activities.

(2011), extend the heterogeneous firm trade model of Melitz (2003) by introducing an intermediation technology that allows wholesalers to exploit economies of scope in exporting². On the empirical side, contributions by Ahn et al. (2011), Akerman (2010), Bernard et al. (2010), and Bernard et al. (forthcoming) investigate several issues related to the activity of intermediary exporters in China, Sweden, Italy and the US, respectively. In order to measure the contribution of intermediaries to foreign trade this briefing paper draws on the above mentioned literature and all the available empirical papers that use custom or survey data for several developed and developing countries.

Before summarizing the results a few remarks are necessary. First, using information for a large and representative sample of firms in a country, as that provided by custom or survey data, gives a better and broader picture of the role of intermediaries. Compared to case studies, a large dataset allows the testing of theoretical predictions and provides more generalized results. However, while statistics for a single firm are usually up-to-date and relatively easy to obtain, the customs data are often available for relatively less recent and shorter periods. That is why the information provided by the empirical works discussed in this section refers mainly to the early 2000s.

Second, for confidentiality reasons, customs data are not always released to researchers by national statistical offices and the availability of this information varies from country to country. At the same time not all survey data include questions related to how firms approach foreign markets. That is why in what follows we provide a quantitative assessment of the role of intermediaries in foreign markets for some countries and not others. Indeed, the choice of showing the results only for a set of nations is due exclusively to data limitations.

Third, given the different data sources, none of the papers employs exactly the same definition of an exporting intermediary, so the results are not directly comparable to each other. While some of the studies collect trade data for intermediary firms, others are based on data of manufacturing producers that reach the foreign markets indirectly. Notwithstanding this limitation, the information collected provides a picture of the extent to which trade flows through wholesalers and retailers rather than producers.

Fourth, most of the analyses look at one side of trade, which is export. Therefore, only when available we report data on intermediaries import flows.

Much research work is still required to extend the findings to a larger set of countries, especially emerging economies. Also, because of the novelty of this literature, the results emerged so far are not at all conclusive with respect to the potential benefits and drawbacks of wholesalers and distributions group in international trade.

² Early theoretical works on the role of intermediaries in international trade, e.g Rauch and Watson (2004) and more recently Petropoulou (2011), model international trade as an outcome of search and networks.

2 The relevance and role of intermediaries in the world trading system

The Chapter starts by providing, by means of different datasets, a quantitative assessment of wholesalers' contribution to international trade. It then investigates the function of these firms in foreign markets, summarizing the main predictions of the recent theoretical contributions and presenting the available empirical evidence. Finally, it sheds light on the role of wholesalers in China, emphasizing how trade liberalization, characterized by trade policy uncertainty reduction due to WTO accession, affected intermediaries' exports in this country.

2.1 How much international trade is accounted for by intermediaries?

We start by giving a quantitative assessment of the role of intermediaries in international trade for the countries for which studies on this are available. A summary of the relevance of intermediaries in some countries is provided in Table 1.

Using data for the **US**, Bernard et al. (2010) distinguish between (i) pure wholesalers, who have 100 percent of their US employment in wholesaling, (ii) pure retailers (R), who have 100 percent of their US employment in retailing, (iii) pure producers, which have zero wholesale and retail employment, and (iv) firms that mix manufacturing with wholesaling and retailing. For 2002, pure wholesalers and retailers account for large shares of trading firms but relatively little value. Wholesalers account for 34% of exporting firms but make only 8% of US's total exports. On the contrary, mixed firms, i.e. those firms in which wholesaling plus retailing accounts for at most 25 per cent of employment are rare, around 4% of the exporters, but account for the majority of trade, around 67%. Data on distribution of firms and trade value are reported also for imports. Pure importing wholesalers account for a large fraction of the population, 42% and they account for 15% of import value. More importantly, around 50% of imports from China come through firms classified as wholesalers or mixed firms.

Employing **Italian** customs data between 2000 and 2007, Bernard et al. (forthcoming) consider firms with wholesaling as their main activity as intermediaries. According to their findings, the large majority of exports, more than 85%, are performed directly by manufacturing firms that represent more than 55% of exporters. The 27% of exporters that are wholesalers account for no more than 10% of Italian exports during this period. As in other countries, retailers are relatively minor players in exporting, accounting for less than one per cent of exports by value. Moreover, Italian data reveal that intermediaries have a much stronger role on the import side. They account for 35% of importers and their share in import value is around 35%³.

Using **French** customs data for the year 2007, Crozet et al. (2013) also define intermediaries as Bernard et al. (forthcoming). In 2007, intermediaries represent 32% of the exporters, a number in line with that reported for Italy and US, but accounted for a larger share of export value, around 20% compared to the 10% of the other two countries. Moreover, the export value rises to 47% for homogeneous goods, which are defined as goods traded on an organized exchange Rauch (1999). In line with Crozet et al. (2013), using French customs data for three different years, 1985, 1988 and 1990, Schroder et al. (2005) show that trade intermediaries account for approximately 17% of total French exports.

Swedish firm data for 2005, Akerman (2010) includes both wholesalers and retailers in the intermediary group⁴. He reports that intermediaries account for 15% of aggregate export volumes (measured in

³ The import share rises to 40% if we exclude energy products.

⁴ However the author specifies that all the results of his analysis are robust to using only pure "wholesalers".

Swedish currency). Drawing on customs data for **China**, Ahn et al. (2011) and Tang and Zhang (2012) provide a complete portrait of direct exports and indirect exports handled by intermediary firms. In both papers, an intermediary is defined as a firm with certain Chinese characters in its name, that is firms that have the English-equivalent meaning of “importer”, “exporter”, and/or “trading” in the firm's name. The customs data reveal that in 2000 Chinese intermediaries accounted for 12.4% of exporters and for 35% of total exports. The statistics, available from 2000 to 2005, show however that the share of intermediaries' exporters increased in this period, from 12% to 21%, while the fraction in export value fell from 35% to 22%. According to Ahn et al. (2011), the reduction in the share is probably due to the decline in trade costs over time that enabled firms to switch towards direct exporting.

Employing **Chilean** transaction-level data between 2004 and 2008, Blum et al. (2010) analyze the role of intermediaries on the import side. They match the information for Chilean importers with that of Argentine exporters to create a dataset for bilateral and global trade information for each exporter/importer pair. Chilean wholesalers account for 35% and retailers for 6% of Chilean imports from Argentine.

As emphasized above, although the available information is not directly comparable, we can, on first approximation, conclude that the role of intermediaries in exporting activities is not negligible. They accounted for about 10% to 20% of a country exports in the early 2000s. The percentage of exports through wholesalers is slightly larger in China and France (20% and 22%, respectively) than in the US, Italy and Sweden (around 10%). The data on the number of wholesalers as exporters suggests that they represent a large fraction of total exporters, around 30% for all countries with the only exception of China for which the percentage is lower (13%). Although the information collected seems to suggest a common trend across countries (EU, US, developed and emerging), the limited number of data available prevents us from making strong conclusions.

While previous research distinguished between direct manufacturing exporters and intermediaries, some other studies provide information on the manufacturer that supplied the good to the intermediary, in the first place Abel-Kock (2013), McCann (2013), Chan (2014), Grazi and Tomasi (2014), Davies and Jeppesen (2012). Many of these papers employ data from the Business Enterprise Survey (BEEPS), a joint initiative of the European Bank of Reconstruction and Development (EBRD) and of the World Bank Group. The survey examines the quality of the business environment for different regions by collecting firm-level data on a broad range of issues including firm financing, labour, infrastructure, informal payments and corruption, trade and innovation activities. The main advantage of the BEEPS data is that total sales of producing firms are broken out in three mutually exclusive categories (that sum to 100 per cent): share of national sales, share of indirect exports and share of direct exports. Therefore, it is possible to group producers into those that do not export, producers that ship some or all of their goods indirectly and producers that only export directly. The BEEPS dataset is available for a wide cross-section of countries at very different levels of development. Grazi and Tomasi (2014) provide a summarizing table reporting some group of countries and the total number of observations over the period 2002-2005.

Table 2 of this briefing draws on and summarizes this material, selecting among the available countries. In Table 2 we distinguish between advanced EU countries and other EU countries, and we select some relevant emerging countries such as China and Brazil. Finally, we provide the number of all the other emerging countries. For the group of advanced European countries the percentage of firms that reach foreign markets using intermediaries for some or all of their exports is about 14%. A similar number is observed among the other EU countries where the percentage of indirect exporters is 16%. It is interesting to observe that the latter rises to 23% for China, suggesting the strong role of intermediaries in this country. In the other developing economies the share is around 15%, as observed for other countries. It is important to emphasize that the figures reported in Table 2 reveal that the ability to export

indirectly increases by a third the number of firms that can reach foreign markets with what they produce.

2.2 What is the role of intermediaries in international trade?

While the literature in international trade has largely focused on manufacturers that export their own products, an emerging body of theoretical and empirical research has emphasized the existence of producers that export indirectly and the role played by intermediaries in facilitating exports. In what follows we summarize the main theoretical predictions of the recent models with trade and intermediaries together with the main empirical findings on the topic. Our aim here is not to provide a technical review but rather to address the most important questions the theory and the empirical analyses have answered.

Question 1: *Why should a manufacturing firm export through an intermediary rather than directly by itself?*

To explain the existence of intermediaries in trade, recent theoretical models introduce the idea of an *intermediation technology*⁵. The reasoning is the following. To sell abroad all firms, both manufacturers and wholesalers, need to make an investment and to pay fixed costs to establish a distribution network in the foreign market or to hire personnel with skill to manage this network. However, wholesalers possess a technology different from normal manufacturing firms. They buy manufacturing goods domestically and sell these goods in foreign markets. Therefore, they can handle and trade more goods than manufacturing firms. This implies that for a wholesaler the fixed costs required to enter foreign markets can be spread over a large number of products, implying that the export cost per product (the average export cost) is lower than the one faced by a manufacturer. In other words, intermediaries exhibit economies of scope in exporting. Because of the intermediation technology, a number of manufacturing firms may export indirectly through a wholesaler, rather than managing their own distribution networks. These indirect exporters pay an intermediary fixed cost, which is smaller than the manufacturers own fixed cost of direct export. Therefore, although potentially less profitable (some of the profits are transferred to the intermediary), indirect exporting is a cheaper alternative for producers that cannot afford the large upfront costs of selling abroad. As a result, in this setting, firms choose to serve the foreign market either directly or through domestically based export intermediaries. The existence of this intermediation technology, which allows wholesalers to handle more goods, is confirmed by empirical analyses that document the differences between manufacturing and wholesale exporters (Bernard et al., 2011; Ahn et al., 2011; Akerman, 2010). First, intermediaries are much smaller in terms of number of employees. This result is consistent with the idea that manufacturing firms are performing two activities, the physical production of the goods and the intermediation of the goods to a downstream customer, while wholesalers are only engaged in the latter activity. Second, wholesalers export relatively more products per country than firms engaged in direct exporting which instead appear to have a relative product focus. Third, and in line with the previous point, intermediaries appear to have a lower product export sales concentration relative to their counterparts that directly trade.

Question 2: *Which are the firms that export directly rather than indirectly?*

According to the theoretical models mentioned above, because of the fixed costs required to export, only some firms enter foreign markets. The decision concerning the export entry depends on the relative *productivity of the firm*. As in the standard model of Melitz (2003), the most productive firms can export

⁵ Theoretical frameworks on intermediaries include Ahn et al. (2011), Antras and Costinot (2011), Akerman (2010), Crozet et al. (2013), Dasgupta and Mondria (2012), Tang and Zhang (2012).

directly by incurring the fixed cost of export and any variable trade costs, while the least productive firms do not export as the fixed costs represent a barrier which is too high to overcome for them.

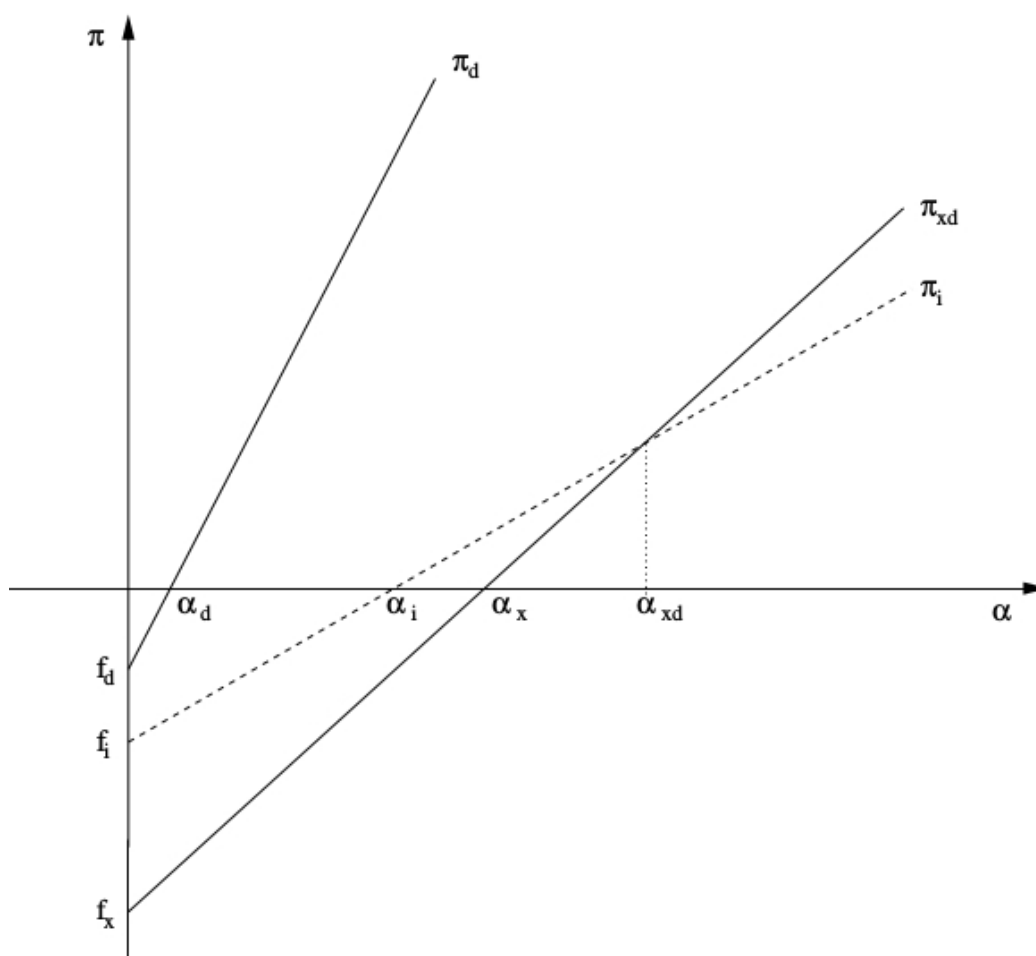
The idea of the Melitz's model is summarized in Figure 1 where a firm's productivity level α is reported on the horizontal axis and the corresponding profit π on the vertical axis. The two solid lines in Figure 1 depict profits from the domestic market (π_d) and the additional profits for firms that export directly (π_{xd}). The total profit of a firm is therefore given by the sum of the two lines. The profit is a function of increasing in productivity (α) as more productive firms are able to charge a lower price, capture a large market share and generate larger profits. The intercept of the domestic curve is smaller in absolute value than that of exports because the fixed costs that are incurred for selling on the domestic market (f_d) are lower than what a firm must pay to export directly abroad (f_x). Moreover, since there is a per unit variable cost of export, the slope of the profit function for direct exports is flatter than the slope of the profit function for domestic production. These relationships introduce two productivity cut-offs (α_d and α_x) that in turn indicate which ranges of productivity determine exit, domestic sales only, or direct exports. Precisely, only the most productive firms, those firms with a productivity level above α_x , will *export and make positive profits on foreign markets* (π_{xd}). *Those firms with a productive level between α_d and α_x will serve only the domestic market.*

What happens if we allow the introduction of the intermediation technology? As discussed above, the advantage of using intermediation is that manufacturers avoid establishing their own distribution networks and pay lower fixed costs. Therefore, the fixed costs of exporting indirectly are lower than the fixed costs of direct exporting and greater than or equal to the fixed costs of domestic sales, that is f_i is between f_d and f_x in Figure 1.

Given the lower fixed costs all firms, also the most efficient one, would in principle prefer to export indirectly. However, going abroad indirectly implies to pay a service provided by the intermediary. Wholesalers might charge a price to the firm because of relabeling, packaging and other per-unit costs associated with taking the title of varieties from the manufacturers. A manufacturer might also pay additional costs due to the search of the right distributor. It follows that, for a given variety, the indirect export price exceeds the direct export price and manufacturer's revenue from direct exports exceeds its revenue from indirect exports⁶. The profit curves of the indirect exports is therefore flatter than the direct export profit curve, as represented by the dotted curve drawn in Figure 1 (π_i).

⁶ It is possible that no producer will choose to export through an intermediary if the increase in variable cost is sufficiently large.

Figure 1: Profits from domestic sales, indirect and direct exports



The combination of lower fixed costs and higher variable costs at intermediaries introduces a third productivity cut-off, α_i , which is the zero-profit cut off for exporting through an intermediary. Firms with productivity levels below α_d earn negative profits and exit the industry. Firms with productivity levels between α_d and α_i produce only for the domestic market. Firms with productivity between α_i and α_{xd} now can profitably access the foreign market through wholesalers. Finally, firms with productivity levels above α_{xd} produce for the domestic market and export directly. Note that the group of firms with indirect exports includes some firms with productivity too low to find it profitable and some firms of higher productivity that prefer indirect to direct exporting.

To sum up, this theoretical framework implies that, with the possibility of exporting through intermediaries, firms now have an additional option of getting access to foreign markets. Some of the firms would not have been exporters in the absence of intermediaries. In this sense, the number of producers selling their product abroad might be much greater than that suggested in frameworks where only direct exporters exist.

Empirical works that shed light on the characteristics of firms that use intermediaries in international trade confirm the theoretical prediction according to which heterogeneity in productivity plays an important role in explaining the different mode of export entry (Abel-Kock, 2013; McCann, 2013; Chan, 2014; Grazzi and Tomasi, 2014). Overall the findings suggest that firms exporting directly perform better than indirect exporters supporting the idea that intermediaries help to access foreign markets the less

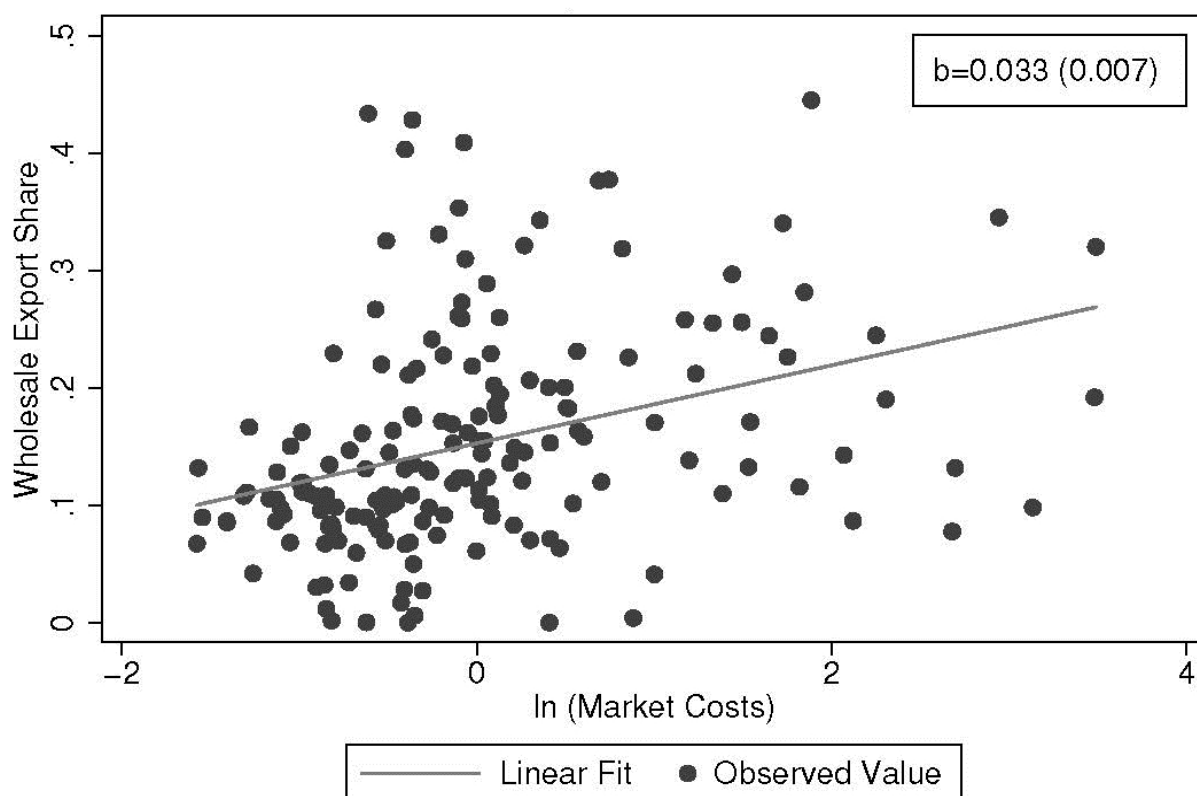
efficient firms, which otherwise would not be able to pay the fixed cost of exporting directly. The results are robust across a range of studies and proven across different developed and developing countries.

Abel-Kock (2013) uses data from the World Bank Enterprise Survey conducted in Turkey in 2005 and shows that there is indeed a significant negative correlation between firm size and the relative importance of indirect exports as opposed to direct exports. The empirical analysis indicates that the share of indirect exports in total exports declines significantly with firm size, and this result is robust to the inclusion of a variety of control variables and different estimation methods. Similarly, McCann (2013) using a firm-level data set for Eastern Europe provides evidence that direct exporters are statistically significantly more productive than both indirect exporters and domestic firm. Davies and Jeppsen (2012) for 105 developing and transition countries find strong evidence that direct exporters are on average more productive than both indirect and non-exporters. Grazzi and Tomasi (2014) extend previous findings to a larger set of countries and confirm the negative correlation between a firm's performance, measured by size or productivity, and its share of indirect exports for both developed and developing countries. Finally, Kruger (2009), using a firm level panel data set of Ghana firms and taking simultaneity problems into account, shows that indeed low productivity firms tend to export through intermediaries.

Firms' level of productivity is not the only discriminant for the choice of the export mode. Indeed, in presence of product quality differentiation some theoretical models (Crozet et al., 2013; Dasgupta and Mondria, 2012; Tang and Zhang, 2012) predict that manufacturing firms sort according to the *quality of their varieties* into different export channels. Those producing high quality goods are less likely to use trade intermediaries. The idea here is that firms producing higher quality goods need to signal the high quality in order to demand higher prices and they do not trust that intermediaries will do this. Furthermore, quality might be signalled by the brand name of the good, which is more visible when there are no intermediaries. Indeed, when quality is considered, the models show that intermediaries help manufacturing firms producing lower-quality and thus least expensive varieties to access foreign markets. On the contrary, manufacturing firms exporting high quality products choose to access foreign markets directly because intermediaries underinvest in quality signalling from the perspective of the producer. The relationship between firms' product quality and the use of intermediaries in trade has been tested empirically and the evidence confirms that manufacturing firms, which produce low quality goods, are more likely to use trade intermediaries. Abel-Kock (2013), using data for Turkish firms, shows that product quality is negatively correlated with indirect as opposed to direct exports, lending support to recent models on the role of product quality in the presence of trade intermediaries. For a large set of developed and developing countries, Grazzi and Tomasi (2014) find that firms' productivity and quality level have a stronger effect on the probability of exporting directly than on that of exporting indirectly.

Question 3: What is the role of fixed costs of exporting in the choice of the export mode?

As noted above, the intermediation technology allows wholesalers to exploit economies of scale. A direct consequence of this statement is that the *size of the fixed costs of exporting*, which in turn depends on country and product characteristics, is crucial in determining the export mode of manufacturing firms. Indeed, higher fixed cost gives wholesalers a larger role since they can spread the fixed cost across more than one good. Put differently, markets with relatively high fixed export costs offer an opportunity for wholesalers to act as trade intermediaries and they become more important since fewer firms can export on their own. Therefore, the share of exports through intermediaries should be larger in countries that are more difficult to penetrate and characterized by higher fixed costs of exporting. This prediction is consistent with observations from the business literature (e.g., Peng and Ilinitch, 1998) according to which manufacturers may be more likely to use export intermediaries to enter unfamiliar and relatively difficult markets in order to save on export-related search and negotiation costs.

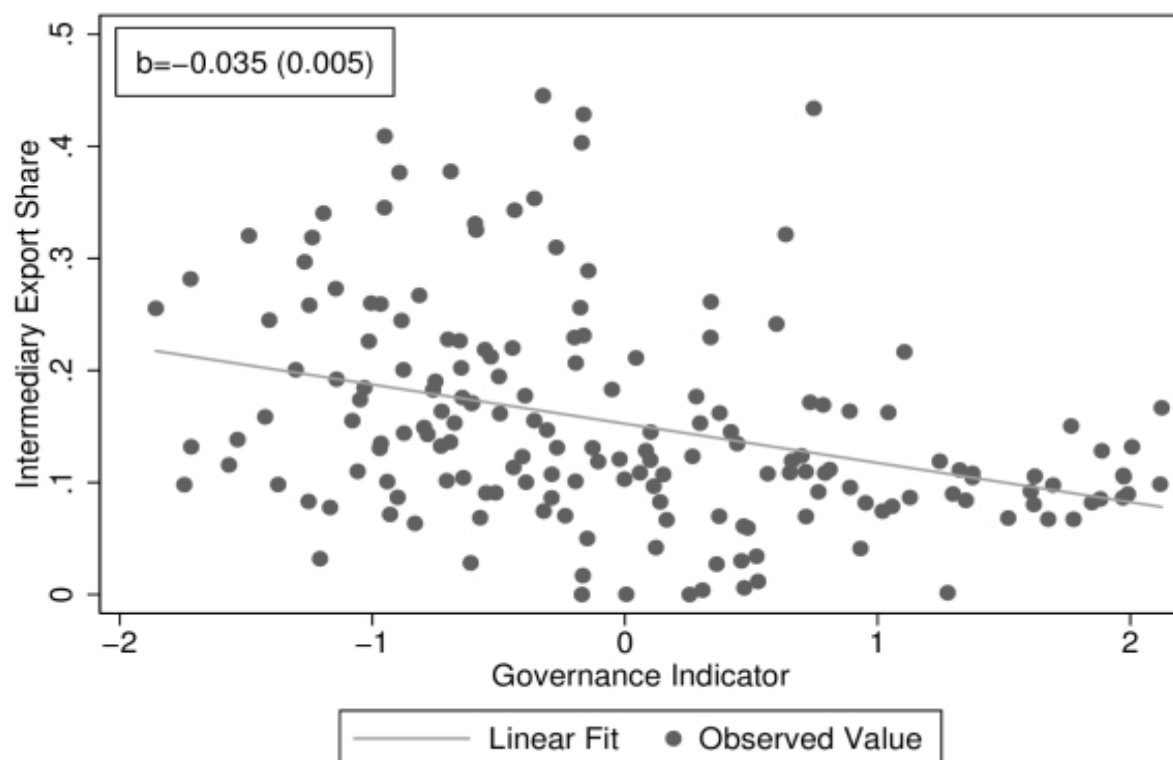
Figure 2: Relationship between Italian wholesale export share and Market Costs for 2003

Source: Bernard et al. (2011)

In line with the predictions of the theoretical models, the empirical analyses confirm that the role of intermediaries is stronger in destination countries characterized by higher fixed costs. The wholesale export share is indeed positively related to variables that proxy for country-specific fixed costs. Empirical analyses traditionally employ three measures taken from the World Bank Doing Business dataset: number of documents for exporting, cost of exporting and time to export⁷. Figure 2, which reports the relationship between the proxy for the market costs and the wholesaler export share for Italy, confirms a strong positive correlation. This result is robust across different countries and econometric specifications (see Ahn et al., 2011; Bernard et al., forthcoming, for China; Akerman, 2010 for the US; Crozet et al., 2013; Schroder et al., 2005 for France). Relatively difficult markets with a high level of entry costs are also those characterized by a low level of quality in the governance and very unfamiliar markets with a high level of linguistic and cultural dissimilarity. Empirical analyses confirm this intuition suggesting that wholesalers are more likely to export to countries with weaker contracting environments, fewer ethnic networks and different cultural settings (see Bernard et al., forthcoming; Ahn et al., 2011; Felbermayr and Jung, 2011; Schroder et al., 2005; Crozet et al., 2013)⁸. Figure 3 reports the relationship between the proxy for the quality of the governance and the wholesaler export share for Italy.

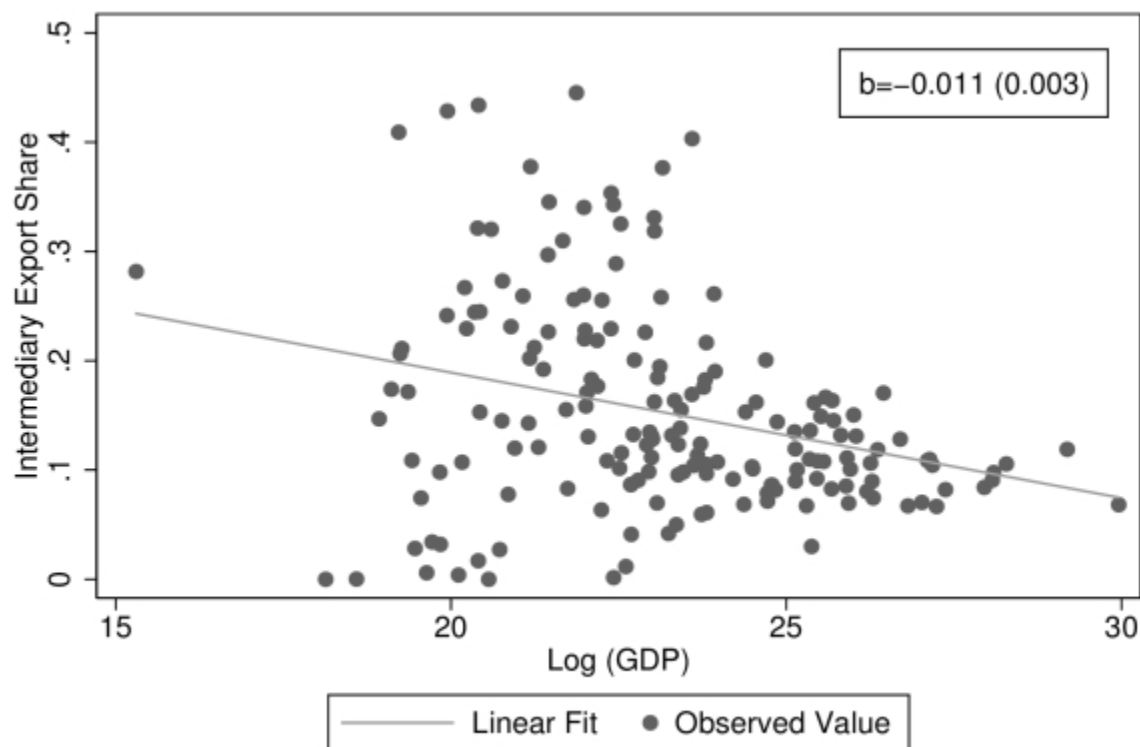
⁷ Given the high correlation between these variables, Bernard et al. (forthcoming) use the primary factor derived from a principal component analysis as the factor that accounts for most of the variance of the original indicators.

⁸ While all the studies have shown that exports by trade intermediaries increase with destination-specific fixed costs, Davies and Jeppesen (2012) suggest that this is also true for source-specific costs. Indeed, the productivity premium of direct exporters relative to both indirect and non-exporters rises as the source-specific fixed costs of exporting increase. This result suggests that such costs may increase the productivity threshold for exporting via direct channels only, causing a larger share of exporters to make use of a trade intermediary.

Figure 3: Relationship between Italian wholesale export share and Governance Indicator for 2003

Source: Bernard et al. (2011)

However, it is not only the level of fixed costs that correlates with indirect export share. There are indeed other destination characteristics that have to be taken into account. Bigger markets, those for instance with higher GDP, are those characterized by higher demand where consumers purchase more and more expensive goods. Because of the larger demand, it should be relatively easier to export to these countries where profits are higher also for relatively low productive firms. On the contrary, in smaller countries where demand is low and the fixed entry costs have to be spread over fewer units, exports are more likely to be handled by wholesalers. The empirical evidence suggests that the fraction of a country's total exports handled by wholesalers decreases as the destination's GDP increases. Figure 4 reports the relationship for Italy.

Figure 4: Relationship between Italian wholesale export share and country-level GDP for 2003

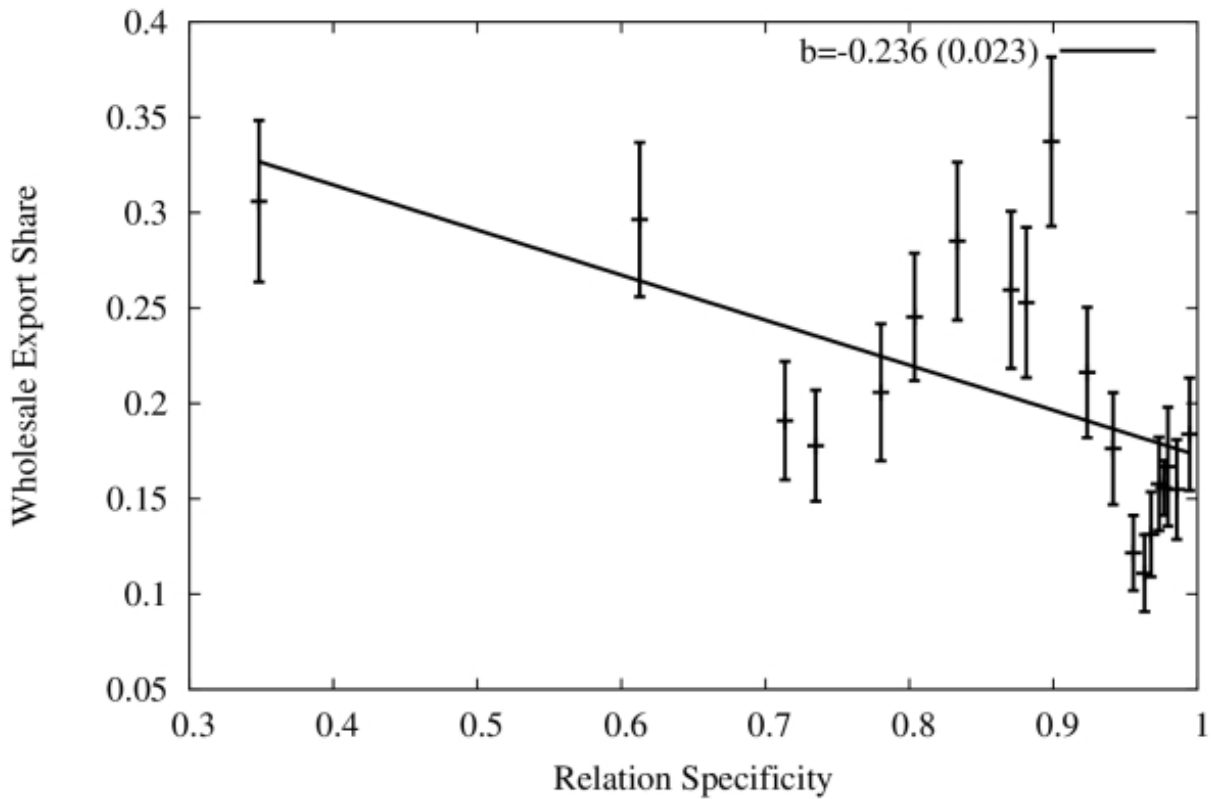
Source: Bernard et al. (2011)

However, because different destination characteristics are correlated to indirect exports, the negative correlation observed Figure 4 has to be interpreted carefully. Indeed, we might observe larger markets where country specific fixed costs remain high and therefore margins are not sufficiently large to allow the low productive firms to export by themselves. Some of the empirical analyses provide evidence that intermediary export shares covary with GDP even after controlling for the level of fixed costs (Ahn et al., 2011; Bernard et al., forthcoming). In Felbermayr and Jung (2008) and Akerman (2010), however, the share of indirect exports is not correlated with market size.

Empirical analyses not only confirmed the role of country-characteristics in influencing the mode of exports but also that of product-level determinants. While the theoretical models remain largely silent on this aspect, product characteristics would be expected to play a role in explaining the type of firm handling the exports. Even if goods with higher relation-specificity (such as customized goods, or production to order) have relatively larger product-country fixed costs of exporting, the share of direct exports is likely to be greater. Transactions involving complex goods, whose production process is intensive in the use of highly specialized and customized inputs, may require specific knowledge and tasks because of the effort associated with the identification of potential customers, more detailed contracts, post-sale service, etc. For those goods, the product-market component of fixed costs is relatively large and such goods are more likely to be exported directly by selected manufacturing firms. On the contrary, the indirect mode of export would prevail if the traded good does not require a relation-specific investment, as for commoditized products. This prediction is in line with the hypothesis put forward by Peng and York (2001) "the higher the commodity content of the product, the more likely that export intermediaries will be selected by manufacturers". This is confirmed by Bernard et al., (forthcoming) which show that wholesalers focus on products that are less differentiated, have lower contract intensity and with higher level of sunk costs.

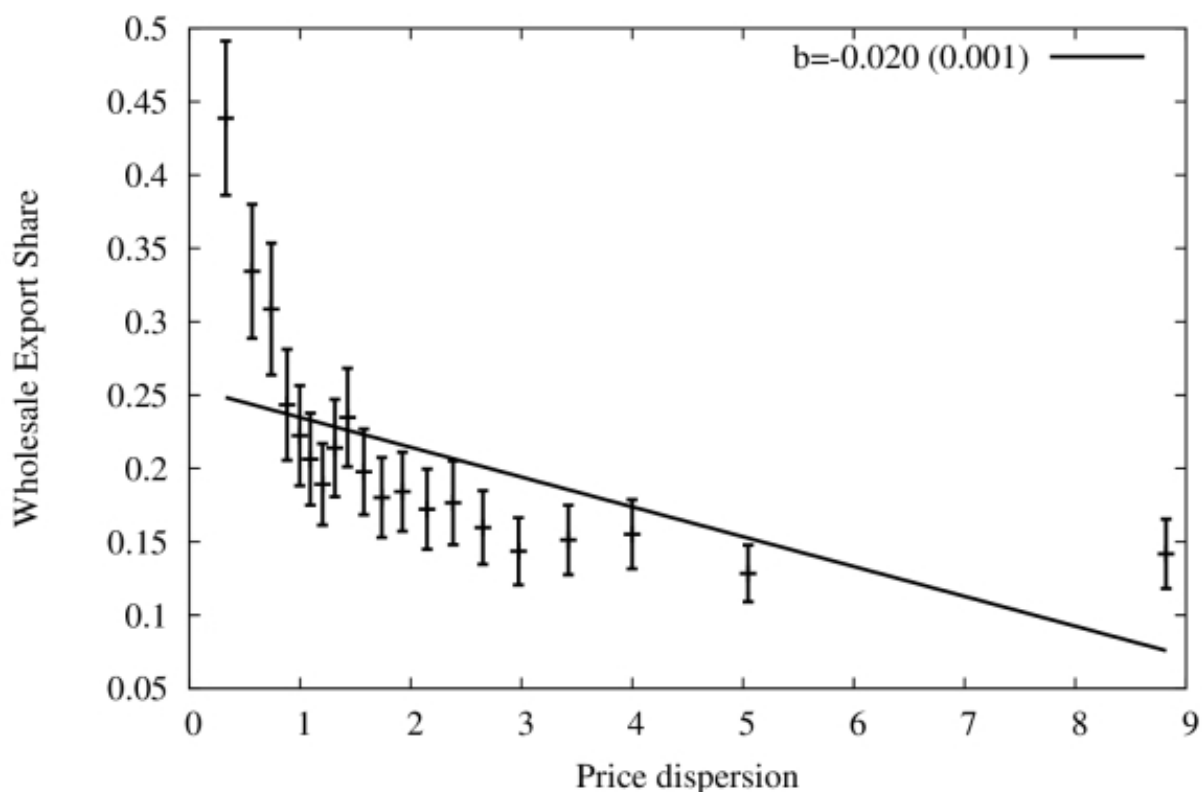
Figure 5 reports a negative and significant relationship between intermediary export share and the measure of relation specificity. Also, the relation between product price dispersion, as proxied by the coefficient of variation of export unit values, and intermediary share is negative and significant, as shown in Figure 6. Evidence for US (Bernard et al., 2010 and for China (Chen and Li, 2014) confirm that the intermediaries are more important for relatively more homogeneous goods such as textile and apparel than for more differentiated goods such as machinery.

Figure 5: Relationship between Italian wholesale export share and Relation Specificity for 2003



Source: Bernard et al. (2011)

Figure 6: Relationship between Italian wholesale export share and the Coefficient of Variation for 2003



Source: Bernard et al. (2011)

2.3 What is the role of intermediaries in developing countries? The case of China

Table 2 shows that intermediaries are relevant not only among developed countries but also for emerging economies. The quantification exercise of the previous section reveals indeed that around 15% of firms reach foreign markets using intermediaries for some or all of their exports.

Among developing countries, China represents an interesting case not only because of its relevance in the world trading system but also because of the importance of intermediaries in this country. Moreover, China has been subject to important policy changes in the last decade, which might have affected intermediaries. These policy changes include 1) the deregulation of direct trading rights; 2) the deregulation of trade intermediaries and 3) the trade liberalization in China's export market as a result of China's WTO accession. Some recent papers emphasize how the new regulatory context has affected exports by intermediaries (Chen and Li, 2014; Bai et al., 2013).

The first policy regulated the group of firms that can export goods directly. While before 1999, domestic private-owned manufacturing firms did not have the direct trading rights, starting from 1999 those firms with large registered capital became eligible to apply for direct trade license⁹. The delegation of direct trading rights to manufacturing firms naturally lead to the decline of exports through trade

⁹ This policy was applied at different rates for different regions, industries and types of firms, as part of the accession agreement for joining the WTO.

intermediaries. The intermediaries' share in total exports continuously decreased, accounting for about 38% of the total export in 2000 and about 23% in 2006¹⁰.

The second policy specified which types of firms could serve as intermediaries in international trade, distinguishing between state-owned or private-owned intermediaries. This deregulation, which was fully accomplished in 2001, changed the composition of intermediaries mainly in favour of the private-owned wholesalers. In 2000 about 3% of intermediary firms were private owned but this number increased to 80% in 2006.

The third policy that affected players in international trade was the trade liberalization in China's export market as a result of China's WTO accession¹¹. The available evidence indicates that China's WTO accession has induced both manufacturers and intermediaries to enter the export market due to the reduction of trade policy uncertainty (Chen and Li, 2014). However, the response of intermediaries to trade liberalization has been smaller than that of manufacturing firms. As a consequence, the intermediaries' share in total exports has decreased.

Some scholars argue that the liberalization process in China, by lowering export barriers, has allowed small and less productive firms, that were previously indirect exporters, to directly access foreign markets (Bai et al., 2013). By entering export markets these firms have increased their productivity (the so called learning-by-exporting effect) more than by exporting indirectly. This is because firms that access directly foreign markets face tougher competition and invest more in innovation. They also get access to new production methods and new product design from their buyers taking advantages from technological transfer mechanisms.

Therefore, the evidence for China seems to suggest that trade by intermediaries has both pros and cons. On the one side, the presence of intermediaries in international trade increases substantially the number of firms that can reach foreign markets with their goods. Indeed, the statistics reported in the previous section indicate that a non-negligible fraction of exports is done by intermediaries and several manufacturing firms access foreign market indirectly through wholesalers. On the other side, since exporting directly can generate more benefits for a firm than trading indirectly, intermediated trade can prevent to fully capture such benefits. However, because of the peculiarity of the China case, where direct trade was strongly regulated till the early 2000s, the results are difficult to generalize and extend to other emerging countries. In this respect, more empirical regularities are required in order to make conclusive statements on the role of intermediaries in trade.

¹⁰ For ordinary export, the intermediaries' share decreased from 62% in 2000 to 44% in 2006, while for processing export, the share decreased from 28% in 2000 to 11% in 2006. In the processing trade regime, the foreign firm sends intermediate inputs to a processing factory in China, which converts the inputs into finished goods and then exports the final output. In the ordinary trade regime, the Chinese firm produce the final outputs and directly export them to the foreign market.

¹¹ It is well understood that China already had *de facto* MFN treatment for its exports by the time it joined the WTO. Joining the WTO just made it more certain.

3 The potential negative impact of wholesalers and retailers on trade

Most of the discussed empirical evidence suggests that intermediaries can allow even relatively smaller and less productive firms to overcome existing barriers to foreign markets and to export, thus increasing trade flows among countries. There is no general evidence in fact of intermediaries affecting trade negatively.

A possible reason for concern about the role of intermediaries is related to the concentration of market power that their position can create. Indeed, since the late 1980s – early 1990s, the distribution sector started a process of concentration – even if at very different rates across countries and also across the EU. There was a change from an industry whose market structure was mainly formed by small firms to an industry including some very large firms both at the national and transnational level. Such concentration had positive effects on the cost structure of the industry and allowed it to exploit important economies of scale, but it also gave rise to a shift in bargaining power and market power away from manufactures towards distribution (Wrigley and Lowe, 2010).

The extensive use of ICT, the reduction in inventories and in capital needs helped the transformation of large national retailers into large transnational corporations (TNCs), bringing the competition in this industry on the international market and extending the bargaining power of retailers beyond national borders. In many countries, the retail TNCs have played an active role in creating ‘export gateways’ for their preferred suppliers in the host countries they have entered (Nordas et al., 2008) and been found to have a sizeable impact on imports from the host to the home economies of retail TNCs. In the markets these firms entered, they typically rapidly accelerated any existing retail ‘modernization’ trends. They also changed the existing ‘rules of the game’ as a result of their import of practices and organizational innovations (new formats, supply chain/distribution-logistic system reorganization, enhanced customer service and quality assurance standards, etc). Together with the positive effects of expansion, consolidation and multinationalisation of the ‘modern’ retail sector in those countries, a more problematic effect was the progressive squeezing of traditional/informal retail channels.

It should be emphasized that the entrance of a foreign retail TNC in a market, even in the case of emerging markets, has not always brought about the dominance in the market of the foreign retailer and the downsizing of the local ones. There are many cases of “resistance” shown by parts of the existing retail structures in the entry markets. There can be effective competition from indigenous retailers who rapidly and successfully emulated the organizational innovations and best practices of the retail TNCs and who, because of their local institutional knowledge and social/political-networks, were able to anticipate and respond to the retail TNCs’ sources of competitive advantage. Also, before a major entry of TNCs into their home markets, some of these indigenous ‘modern’ retail chains had already developed the basis of a protectable market scale – i.e. sufficient to ensure that they were well positioned to resist that entry. Several examples of this type of resistance have been documented in the late 1990s-early 2000s (Bianchi & Mena 2004 and Bianchi and Ostale 2006). Therefore, because of the inability to achieve or have a realistic prospect of achieving sufficient market scale in a country against better placed TNC rivals and/or leading local retail chains, a growing number of cases of strategic divestment and market exit by retail TNCs has been observed.

One possible consequence of the initially stronger competition and the following rationalization of the retail TNCs’ positions within and between individual markets can be to further strengthen the consolidation within those markets by increased concentration. For example, on the one hand, the Mexican market significantly consolidated around Wal-Mart following the exit of Carrefour and Auchan from that market (Durand, 2007). But on the other hand, there remains considerable inter-retail-TNC competition within certain markets. In Poland, despite the competitive shake out of a number of large

groups in the mid-2000s, five retail TNCs continued to struggle for market share at the end of decade, and continuing processes of divestment and asset redeployment are likely to remain critical issues in such markets. It seems at this stage very difficult to determine whether a general dominant trend toward even more concentration exists in the industry.

Another issue related to the effects on competition of the entrance of retail TNCs in a country concerns the local supply chain impact of the retail logistics technologies and supply chain management methods imported by the retail TNCs. These methods – including centralized distribution and the use of preferred supplier networks to permit greater control over delivery and quality – are viewed as having radically transformed supply chains, especially in emerging markets. The local suppliers are also affected by the diffusion of the so-called ‘private standards’ of quality and safety imposed on local suppliers by the retail TNCs, in some cases to compensate for the inadequacies of existing public standards infrastructures, in other cases to identify and differentiate the retail TNC offer. Overall, these transformations have produced both inclusions and exclusions of local firms in the wholesale and retail system: new intermediaries, side-stepping and transforming traditional wholesale systems have emerged, while some traditional local retailers are marginalized from the transformed supply systems (Wrigley and Lowe, 2010).

Finally, considering directly the impact of trade, as mentioned the retail TNCs often act as an ‘export and import gateway’ for products to both the home markets of the TNCs and to other countries in which they operate, affecting both import and export flows (Basker and Hoang Van, 2010).

On this issue, Durand (2007) has provided evidence of a dramatic increase in the share of imported products within Wal-Mart’s Mexican sales since the late 1990s – an increase from a 20% imports share of Wal-Mart sales in 1997 to more than 55% by 2003, during a period in which Wal-Mart’s total sales and market share in Mexico rose sharply - and linked to Wal-Mart’s global sourcing, particularly from China. However, this result could be unique to Wal-Mart with its particular mix of general merchandise (conducive to global sourcing), and also to Mexico, being facilitated by Wal-Mart’s increasingly dominant position in that market.

In contrast to the Mexican case, Coe and Hess (2005) drawing on analysis of Tesco’s operations in Central and Eastern Europe, find a declining share of imports by retail TNCs over time. The retail TNCs in this area moved from an initial heavy reliance on imports to a much smaller import share as local supply capacity increased often as a result of proactive efforts by the retail TNCs to upgrade local supply networks. The study by Nordas et al. (2008) extends this conclusion on the effect of such local supply capacity building.

4 Conclusions and recommendations

The existence of a coherent theoretical framework on the role of intermediaries and wholesalers in international trade is still quite new, as well as the available empirical evidence. This implies that it is difficult to draw strong general conclusions on the relationship between wholesalers and international trade. Still, some important points can be made drawing from the existing theory and evidence. First of all, intermediaries play a relevant role in international trade, as they are responsible for over 10% of trade flows in all countries examined, both developed and emerging. The presence of intermediaries in general increases the amount of trade and diffusion of internationalization for firms in a country, as they allow firms to overcome some of the obstacles to reach a foreign market. They play a role especially in granting market access to smaller firms facing relatively higher costs to find information and appropriate channels to get their goods to foreign markets. This happens allowing the exploitation of economies of scale and scope by exporting larger amounts and varieties of goods to a broader set of markets.

In addition to the positive impact on trade flows, large international intermediaries also brought about a series of benefits, such as the possibility of setting up more efficient supply chains and the diffusion of modern retailer methods. These changes have benefitted consumers in many countries, often lowering intermediation costs, especially in countries with less developed retailing systems.

But the positive effects in terms of trade flows, economies of scale or developing retailing system need to be evaluated against the potential negative impact of the very large bargaining power of some of these intermediaries that can increase their margins at the expenses of small producing firms and consumers. For these reasons, the wholesale and retail sector in the EU is heavily regulated, like in most other advanced countries. In this respect, it is important to find a balance between the extent of regulations and the risk that rules limit too much market access and reduce competition in favour of the incumbents. In order for the benefits of the additional channel of internationalization provided by wholesalers to accrue also to producers and to consumers, competition between wholesalers is important. The empirical evidence suggests that the positive role of international wholesalers in expanding the available varieties for consumers and market access for producers without creating bottlenecks in distribution is seen especially when the local retailers are well organized and occupy a non-negligible market share. When a strong local retailing system exists and therefore it is unlikely to be pushed out of the market by the international wholesalers, important complementarities in their activities might arise.

Another potential negative result of having a large share of trade mediated by wholesalers is the loss of the experience that a firm can gather by exporting directly to a foreign market in terms of knowledge of the consumers' preferences, of potential new suppliers, of technological spillovers from foreign firms in the same sector. On the one hand, this channel of "learning-by-exporting" can be relevant especially to help small firms to grow, but on the other, these are precisely the firms more likely to export through intermediaries, who might not export at all without this help. Therefore, it seems that to boost the use of intermediaries in all cases and for very large shares of a country's trade is not appropriate, even if this might rapidly increase export flows. A better option is to encourage small producing firms to use intermediaries in the first phases of their internationalization, and to move to direct export once that some knowledge and experience of foreign markets is acquired.

Table 1: Trade through intermediaries and number of trading firms: different countries

Country	Source	Exports		Imports	
		% Firms	% Value	% Firms	% Value
Italy	Bernard et al. (forthcoming)	27	10	35	35
France	Crozet et al. (2013)	32	20		
US	Bernard et al. (2010)	34	8	42	15
China	Ahn et al. (2011); Tang and Zhang (2012)	13	22		
Sweden	Akerman (2010)		15		

Note: Table reports data on the share of trading firms and trade value for different countries

Table 2: Number of observations in BEEPS: standardized dataset, 2002-2005

Country	Domestic Only (1)	Indirect & Mixed Exporter (2)	Direct Exporter (3)
Advanced EU countries			
Germany	109	10	90
Spain	63	5	43
Ireland	73	12	78
Greece	49	4	31
Slovenia	9	11	33
Total HI EU	303	42	275
Other EU countries			
Bulgaria	104	33	85
Croatia	24	6	29
Czech	37	11	29
Estonia	17	3	19
Hungary	138	18	130
Poland	334	30	120
Portugal	55	17	43
Romania	241	35	68
Slovakia	6	5	19
Total Other EU	956	158	542
Selected emerging countries			
China	1347	318	423
Brazil	1090	124	361
Argentina	341	52	320
Mexico	896	46	112
Total Selected Emerging	3701	540	1216
Other emerging countries			
Total Other Emerging	18384	2749	7808

Source: Grazi and Tomasi (2014).

Note: Table reports the observations only for firms in the manufacturing sectors. High Income* includes those countries above the 75th percentile of income level according to the World Bank. Mixed exporters are those that export both directly and indirectly.

Table 3: Leading transnational retailers ranked by sales outside home market, 2008

Rank	Name of company	Country of origin	International sales (US\$m)	International sales (% of total)	No. of countries of operation
1	Wal-Mart	US	113,020	26	16
2	Carrefour	France	91,763	57	33
3	Metro	Germany	70,724	61	32
4	Ahold	France	49,440	76	9
5	Schwarz Grp	Germany	43,931	51	24
6	Auchan	France	38,924	53	11
7	Aldi	Germany	35,269	48	15
8	Tesco	UK	32,717	30	13
9	IKEA	Sweden	29,763	94	37
10	Rewe	Germany	25,955	33	14
11	Seven & I	Japan	25,490	30	4
12	Delhaize	Belgium	21,545	77	6
13	Costco	US	18,900	24	8
14	PPR	France	17,365	61	48
15	Tengelmann	Germany	13,036	47	15
16	Casino	France	9,287	23	11
17	Amazon	US	9,777	51	7
18	Kingfisher	UK	9,055	55	9
19	Best Buy	US	8,103	18	4
20	Home Depot	US	7,843	11	7

Source: Wrigley and Lowe, 2010

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